

acid at the time of collection. The hydrochloric acid must consist of equal amounts of concentrated reagent grade hydrochloric acid and distilled water.

(c) Each sample must be refrigerated at or below 4 °C. until analyzed. However, refrigeration is not necessary if there is no time delay between sample collection and analysis.

**§ 162.050-15 Designation of facilities.**

(a) Each request for designation as a facility authorized to perform approval tests must be submitted to the Commanding Officer, U.S. Coast Guard Marine Safety Center, Engineering Division, 400 Seventh Street SW., Washington, DC 20590-0001.

(b) Each request must include the following:

(1) Name and address of the facility.

(2) Each type of equipment the facility proposes to test.

(3) A description of the facility's capability to perform approval tests including detailed information on the following:

(i) Management organization including personnel qualifications.

(ii) Equipment available for conducting sample analysis.

(iii) Materials available for approval testing.

(iv) Each of the facility's test rigs, if any.

(c) The Coast Guard reviews each request submitted to determine whether the facility meets the requirements of paragraphs (g)(1) through (g)(4) of this section.

(d) If the facility meets the requirements in paragraphs (g)(1) through (g)(4) of this section, it is then supplied with twelve samples containing mixtures of oil in water that are within a 10 to 30 p.p.m. range.

(e) The facility must measure the oil content of each sample using the method described in §162.050-39 and report the value of each of the 12 measurements to the Commanding Officer, U.S. Coast Guard Marine Safety Center, Engineering Division, 400 Seventh Street SW., Washington, DC 20590-0001.

(f) The measurements must meet the following criteria:

(1) Except as provided in paragraph (f)(2) of this section, the absolute value of  $T_n$  for each measurement, as deter-

mined by the American Society for Testing and Materials, "Standard Practice for Determination of Precision and Bias of Methods of Committee D-19 on Water", D 2777 (incorporated by reference, see §162.050-4), must be less than or equal to 2.29 at a confidence level of 0.05.

(2) The absolute value of  $T_n$  for one measurement may exceed 2.29 if the  $T_n$  values for the other eleven measurements are less than or equal to 2.23 at a confidence level of 0.05. If the  $T_n$  value for one measurement exceeds 2.29, that measurement is not used in the method described in paragraph (f)(3) of this section.

(3) The value of  $\bar{X} \leq$  for the 12 measurements described in paragraph (e) of this section, or for 11 measurements if paragraph (f)(2) of this section applies, must be within the range of  $-1 \bar{X} \leq +1$  at a minimum confidence level of 0.01 when  $\bar{X} \leq d$  is determined by the method described in paragraph 3-3.1.4 of "Experimental Statistics", National Bureau of Standards Handbook No. 91 (October 1966).

(g) To obtain authorization to conduct approval tests—

(1) A facility must have the management organization, equipment for conducting sample analysis, and the materials necessary to perform the tests;

(2) Each facility test rig must be of a type described in §162.050-17 or §162.050-19;

(3) The loss or award of a specific contract to test equipment must not be a substantial factor in the facility's financial well being;

(4) The facility must be free of influence and control of the manufacturers, suppliers, and vendors of the equipment; and

(5) The oil content measurements submitted to the Commandant must meet the criteria in paragraph (f) of this section.

(h) A facility may not subcontract for approval testing unless previously authorized by the Coast Guard. A request for authorization to subcontract must be sent to the Commanding Officer, U.S. Coast Guard Marine Safety

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Center, Engineering Division, 400 Seventh Street SW., Washington, DC 20590-0001.

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**§ 162.050-17 Separator test rig.**

(a) This section contains requirements for test rigs used in approval testing of separators. A diagram of a typical test rig is shown in Figure 162.050-17(a).

(b) Each mixture pump on a test rig must—

(1) Be a centrifugal pump capable of operating at one thousand (1,000) revolutions per minute or more;

(2) Have a delivery capacity of at least one and one half (1.5) times the maximum throughput at which the separator being tested is designed to operate;

(3) Have a maximum delivery pressure that is equal to or greater than the maximum influent pressure at which the separator is designed to operate; and

(4) Have either bypass piping to its suction side or a throttle valve or orifice on its discharge side.

(c) The inlet piping of the test rig must be sized so that—

(1) Influent water flows at a Reynolds Number of at least ten thousand;

(2) The influent flow rate is between one and three meters per second; and

(3) Its length is at least twenty (20) times its inside diameter.

(d) Each sample point on a test rig must meet the design requirements described in Figure 162.050-17(e) and must be in a vertical portion of the test rig piping.

**§ 162.050-19 Monitor and bilge alarm test rig.**

(a) This section contains requirements for test rigs used in approval testing of monitors and bilge alarms. A typical test rig is described in Figure 162.050-19. The mixture pipe shown in Figure 162.050-19 is the portion of test rig piping between the oil injection point and the monitor or bilge alarm piping.

(b) Each sample point on a test rig must be of the type described in Figure 162.050-17(e) and must be in a vertical portion of the test rig piping.

(c) Each test rig must have a centrifugal pump that is designed to operate at one thousand (1,000) revolutions per minute or more.

(d) The mixture pipe on a test rig must have a uniform inside diameter.